UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,614	01/31/2005	Oliver Lober	12810.00014-US	6668

30678 7590 01/11/2007
CONNOLLY BOVE LODGE & HUTZ LLP
P.O. BOX 2207
WILMINGTON, DE 19899-2207

EXAMINER	
DAVIS, BRIAN J	
ART UNIT	PAPER NUMBER
1621	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/522,614	LOBER ET AL.	
	Examiner	Art Unit	
	Brian J. Davis	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-20 is/are rejected.

7)☒ Claim(s) 11 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 6/10/05.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

References CC and CD on the IDS have been lined through because they are incomplete. Reference CF has been lined through because it does not appear to be of record in the application.

Claim Objections

Claim 11 is objected to because of the following informalities: the period at the end of the text of the claim should, in fact, come after the diagram of formula III. Claims must begin with a capital letter and end with a period. MPEP 608.01(m). Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The exact meaning of the term "elevated" is unclear because it is undefined. The *elevated* pressure and *elevated* temperature of the instant process are key elements of applicant's invention, yet they are undefined.

Claims 2-10 and 17-20 are also rejected under 35 USC 112, second paragraph, as claims which depend from indefinite claims are also indefinite. *Ex parte Cordova*, 10 USPQ 2d 1949, 1952 (PTO Bd. App. 1989).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 6, 10, 17, 18 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,874,625.

Applicant claims a process for reducing a specific set of substituted aromatic nitrile compounds (formula II) at elevated pressure and temperature to the corresponding amines (formula I) (claim 1). The dependent claims further define the process.

US 5,874,625 teaches the hydrogenation of organic nitriles to primary amines (abstract). The reaction takes place at about 200-400 psi (14-27 bar) and at temperatures up to about 160°C (column 2, line 2). The catalyst is a Ni or Co Raney catalyst (column 5, line 35).

Applicant principally distinguishes over the prior art in that a particular set of substituted aromatic nitriles is specified as the starting material. However, as US 5,874,625 makes clear, a very wide variety of nitrile compounds may be conveniently hydrogenated at elevated pressure and temperature, including substituted aromatic nitriles (column 3, line 39).

In order for an invention to be obvious, two things must be found in the prior art: 1) the suggestion of the invention, and 2) the expectation of its success. *In re Vaeck*, 947 F2d 488, 492, 20 USPQ2d 1438, 1441 (Fed. Cir. 1991). In the instant case, both 1 and 2 above are found in the prior art. US 5,874,625, a representative example of art of nitrile hydrogenation art, clearly teaches that the hydrogenation of nitriles – of an

enormous variety – at elevated pressures and temperatures is well known in the chemical arts. One of ordinary skill in the art at the time of the invention would, therefore, have found the extrapolation of the teachings of US 5,874,625 to the instant set of nitrile starting material obvious, and with the reasonable expectation of a successful result.

Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over *J. Medicinal Chemistry* (1971), 14(9), p. 836-845, cited by applicant in the IDS.

Applicant claims a method for the synthesis of the set of compounds of general formula II by reacting compounds of formula III with a 4-halobenzonitrile (claim 11). The dependent claims further define the process.

J. Medicinal Chemistry (1971), 14(9), p. 836-845, teaches the reaction of p-chlorobenzonitrile with the Na salt of a dialkylamino alcohol (in dialkylamino alcohol) at 130° (page 840 method C; Table I).

As above, applicant principally distinguishes over the prior art in that a particular set of starting materials is specified. And, reasoning as above, one of ordinary skill in the art at the time of the invention would therefore have found the extrapolation of the teachings of *J. Medicinal Chemistry* (1971), 14(9), p. 836-845 to the instant set of starting material obvious and with a reasonable expectation of a successful result.

Claims 13 and 16 have been included in this rejection as they represent mere engineering expediencies (for instance, to drive the reaction toward completion), or are intrinsic to the method of the prior art (stoichiometry).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 2,626,261; US 2,642,437; US 2,642,436; and US 3,959,338 are cited to show related reactions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Davis whose telephone number is 571-272-0638. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BRIAN DAVIS
PRIMARY EXAMINER

Brian J. Davis
January 7, 2007